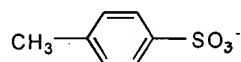


IN THE CLAIMS

[Please add the following claims:]

2. The mirrorless laser of Claim 1 wherein  $R$  and  $R'$  are  $-\text{CH}_3$  and  $Y$  is  $\text{CH}_3\text{OSO}_3^-$ .

3. The mirrorless laser of Claim 1 wherein  $R$  and  $R'$  are  $-\text{CH}_3$ , and  $Y$  has the following formula:



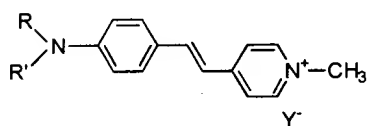
95 4. The mirrorless laser of Claim 1 wherein  $R$  and  $R'$  is  $-\text{CH}_3$ , and  $Y$  is  $I$ .

5. The mirrorless laser of Claim 1 wherein  $R$  and  $R'$  are  $-\text{CH}_2\text{CH}_3$ , and  $Y$  has the following formula:



6. The mirrorless laser of Claim 1 wherein the dipolar organic molecular salt (a) is doped into solid polymeric matrices.

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cont.
7. The mirrorless laser of Claim 6 wherein the solid polymeric matrices is composed of poly(methyl methacrylate) (PMMA).
  8. The mirrorless laser of Claim 1 in which the pump laser (b) is capable of emitting optical pulses having a pulse shorter than the duration (about <100 picoseconds) of the excitation pulses.
  9. The mirrorless laser of Claim 1 which uses potassium dihydrogen phosphate (KDP) as nonlinear optical crystal to increase the frequency output of the laser.
  10. The mirrorless laser of Claim 1 which has a threshold excitation pulse-energy of less than about 1 microjoule with a line excitation of about 5 mm<sup>2</sup> area.
  11. The mirrorless lasers of Claim 1 which uses  $\beta$ -barium borate (BBO) as a nonlinear optical crystal to increase the frequency of output of the laser.
  12. A method for producing a laser-like emission without mirrors comprising:  
utilizing a pump laser for projecting an excitation beam into an active media consisting essentially of at least one strongly dipolar organic molecular salt having the following chemical formula:

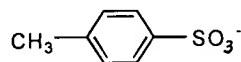


- a. where  $R$  and  $R'$  are the same or different, and comprise a moiety selected from the group consisting of alkyl, substituted alkyl, benzyl, and substituted benzyl, and  $Y$  is an anion organic material capable of

producing highly laser-like emission at low thresholds without external mirrors in media.

13. The method of Claim 12 wherein  $R$  and  $R'$  are  $-\text{CH}_3$  and  $Y$  is  $\text{CH}_3\text{OSO}_3^-$ .

14. The method of Claim 12 wherein  $R$  and  $R'$  are  $-\text{CH}_3$ , and  $Y$  has the following formula:



15. The method of Claim 12 wherein  $R$  and  $R'$  is  $-\text{CH}_3$ , and  $Y$  is  $I$ .

16. The method of Claim 12 wherein  $R$  and  $R'$  are  $-\text{CH}_2\text{CH}_3$ , and  $Y$  has the following formula:



17. The method of Claim 12 wherein the dipolar organic molecular salt (a) is doped into solid polymeric matrices.

18. The method of Claim 12 wherein the solid polymeric matrices is composed of poly(methyl methacrylate) (PMMA).

19. The method of Claim 12 in which the pump laser emits optical pulses having a pulse shorter than the duration (about  $<100$  picoseconds) of the excitation pulses.

20. The method of Claim 12 which uses potassium dihydrogen phosphate (KDP) as a nonlinear optical crystal to increase the frequency output of the laser.

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cont.